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System To Superimpose And Replace Character In Video With Custom Character

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SYSTEM TO SUPERIMPOSE AND REPLACE CHARACTER IN VIDEO WITH CUSTOM CHARACTER

ABSTRACT

A system and method are disclosed that replaces a character in a video with a user-provided character. The method involves using video processing and machine learning techniques to identify and tag the characters in a video. The system then identifies various attributes of the user-provided character. Depending on whether an image or a video is provided, the system uses artificial intelligence or machine learning techniques to derive the attributes. The extracted attributes from the image are then mapped to the character to be replaced in the target video. The system then replaces the character in each frame of the video and renders a new video file, which is then presented to the user. This system and method disclosed may help users to enjoy any video from a completely different point of view.

BACKGROUND

Currently, users see many videos, and may sometimes wish to imagine how the video would be if a character in the video is replaced by a different one of their choice. Present technology may not adequately fulfill this wish.

DESCRIPTION

A system and method are disclosed that will let the user replace any character in a video with a different one. The system includes a device with a video processing application for analyzing image attributes using machine learning and artificial intelligence (AI) techniques as illustrated in FIG. 1.

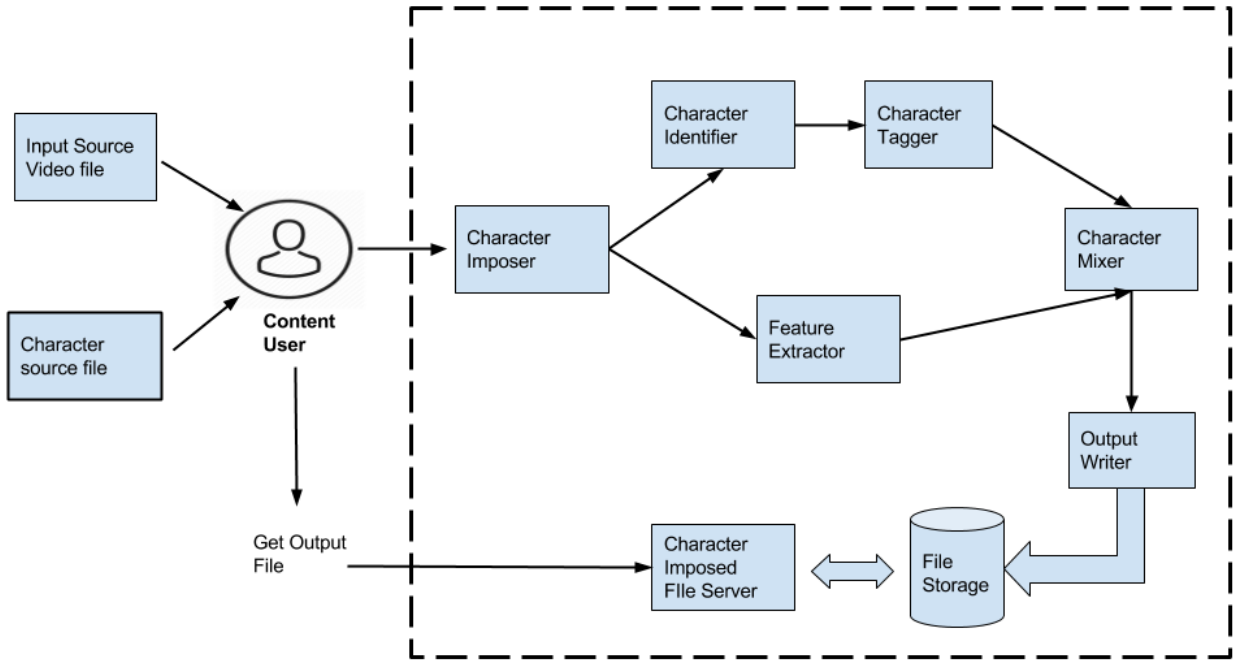

FIG. 1: System for replacing a character in a video with a different character

The method of enabling the user to replace a character in the video with another character is implemented in two parts. The first part involves video processing using a machine-learning algorithm to identify and tag the characters in the video. The second part utilizes artificial intelligence techniques to extract information from the user-provided image or video. The processed video and extracted attributes from the user-provided character are sent to a mapping system. The mapping system may now map the character in the video with the new custom character. The new file may be rendered to user as shown in FIG. 2.

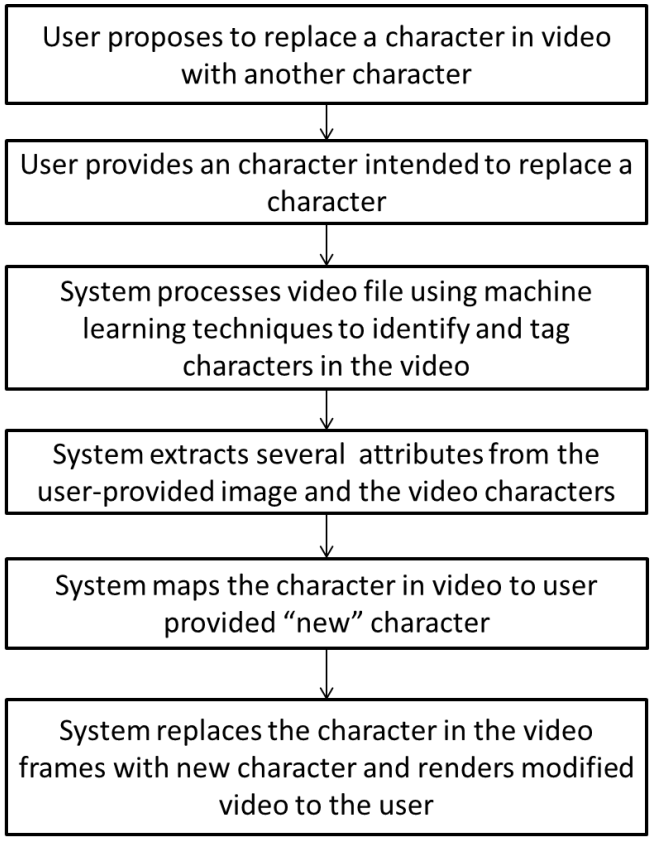

FIG. 2: Method for replacing a character in a video with a different character

The first part of the method involves processing the video file and applying machine learning techniques to identify and tag the characters in the frame. So, if the character appears anytime later on, the tag is used to identify it. The second part of the method identifies various attributes of the “new” character provided by the user, depending on whether an image or a video is provided.

If an image is provided, the method involves capturing the facial features from that image, using AI techniques and maps it to the character tagged earlier. If the user provides a video file, he marks the character that may be used for replacement in the target video. The method then involves learning several attributes of the replacement character like facial movements, voice etc., in addition to face extraction. The extracted attributes of the user-

provided character, in the second part of the method, are then fed to a mapping routine along with the target video processed in the first part of the method. The mapping routine may now map the character in the video with the new custom user provided character. The system then replaces each frame in which the original character is to be replaced and renders a new video file. The new video file is then presented to user.

This system and method to replace a character in a video with a custom character may help users to enjoy any video from a completely different point of view.